

The Hydro Instruments VPH-10000-1 vaporizer is designed to be the most advanced and efficient vaporizer on the market—constructed using the highest quality parts available it's also the most durable.

## Capacity

- 10,000 PPD (200 kg/h) Chlorine
- 8,000 PPD (150 kg/h) Sulfur Dioxide
- 2,500 PPD (50 kg/h) Ammonia

## Features

- ASME section VIII certified pressure chamber with “L” certification.
- Stainless steel water tank with 1.5” drain valve
- 18kW heater with recirculating pump for maximum heat transfer
- SCR heater controller for maximum heater life and minimum energy consumption
- Electronic controller capable of monitoring superheat temperature with superheat alarm
- Connections for up to two actuated pressure reducing valves for duty/standby operation
- Modbus, 4-20mA and contact relay communication for control and monitoring
- Superheat baffles for optimal heat transfer from the pressure chamber to the chlorine gas
- Automatic water level control
- Adjustable cathodic corrosion protection system
- Conforms to The Chlorine Institute Inc. design guidelines



### Operation

The vaporizers inner pressure chamber is immersed in a hot water bath that is heated by an externally mounted heater. Incoming liquid chemical flows into the bottom of this pressure chamber through an internal tube. Through contact with the hot walls of the pressure chamber, heat is transfer causes vaporization of the liquid into a gas. Further heating of the gas prior to exiting the chamber is enhanced by 'superheat baffles' on the outside of the drop tube.

As demand changes so does the liquid level in the pressure chamber. An increase in demand will cause the liquid level in the pressure chamber to rise, creating more contact area between the liquid and the walls of the pressure chamber allowing for more heat transfer. A decrease in demand will create an increase in pressure in the chamber forcing liquid back into the ton container(s) lowering the liquid level.

Chlorine gas temperature and pressure are measured electronically while software instantaneously calculates the superheat. The superheat value, in conjunction with other control features and alarms, can then provide emergency shutoff (should the relevant alarm conditions exist) and remote indication. Controls are also provided for automatic water level control, corrosion protection and set point control of heater power.

### Ordering Information

#### Model: VPH-10000-1—A—B—C—D

Position	Feature	Description
A. Gas Type	C	Chlorine Gas (Cl <sub>2</sub> ) 10,000 PPD (200 Kg/h) maximum
	S	Sulfur Dioxide Gas (SO <sub>2</sub> ) 8,000 PPD (150 Kg/h) maximum
	A	Ammonia Gas (NH <sub>3</sub> ) 2,500 PPD (50 Kg/h) maximum
B. Heater Power	1	480 VAC 50/60 Hz, 3 Ph.
	2	240 VAC 50/60 Hz, 3 Ph.
	3	380 VAC 50/60 Hz, 3 Ph.
	4	Other (Consult Hydro Instruments)
C. Control & Instrument Power	1	120 VAC 50/60 Hz, 1 Ph.
	2	240 VAC 50/60 Hz, 1 Ph.
D. Pressure Reducing Valve Arrangement	1	Single pressure reducing valve control relay (Pressure reducing valve sold separately)
	2	Dual pressure reducing valve control relay (Pressure reducing valves sold separately)

#### NOTES:

- Expansion chamber and pressure relief assemblies sold separately.
- No less than one expansion chamber, pressure relief assembly and pressure reducing valve must be ordered and installed with each vaporizer. Additional expansion chambers may be required.

